John Engler

President and CEO

March 22, 2007

VIA EMAIL

The Honorable John D. Dingell
Chairman
Committee on Energy & Commerce

The Honorable Rick Boucher
Chairman
Subcommittee on Energy & Air Quality
Committee on Energy & Commerce

U.S. House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairmen Dingell and Boucher:

Thank you for the opportunity to comment on the work of the House Committee on Energy & Commerce on climate change. The National Association of Manufacturers (NAM) is the nation's largest industrial trade association, representing small and large manufacturers in every industrial sector and in all 50 states. Headquartered in Washington, D.C., the NAM has 10 additional offices across the country.

The NAM recognizes that there is a relationship between economic growth, global energy consumption, and the environment. The NAM also recognizes that concern about the potential impact of human activities on the earth's natural greenhouse effect has become an international issue. Any proposed policies to reduce greenhouse gas emissions must be subject to thorough and open public debate, including consideration of their impact on the U.S. economy and the ability of U.S. based companies to compete internationally. We believe any U.S. climate change policies should be cost-effective, compatible with our marketplace economy, flexible, transparent, preempt the increasing patchwork of state climate change laws, global in scope and involve all of our trading partners, and take into account all greenhouse gas sources and reservoirs.

The NAM also recognizes that knowledge of the environment is not static, nor is our ability to protect it. Technological advances developed by the marketplace have greatly minimized and continue to reduce the environmental impact of domestic energy production and

consumption. The NAM encourages policies which recognize these technological advances and allow for balance between economic growth and protection of our environment.

In February, the NAM unveiled its Energy Security for American Competitiveness (ESAC) proposal to comprehensively address the energy needs of manufacturers in the U.S. Climate change policy should be viewed in the larger context of energy policy. Any proposed climate change legislation should carefully consider its impact on future energy prices, potential fuel switching, energy technology development, and the realistic fuel mix for how America will make electricity and fuel its vehicles in the next 10, 20, and 50 years. Affordable and reliable energy is essential to the long-term health of the U.S. economy and its citizens. Lower energy prices mean greater take home pay for American workers, and access to competitively priced energy enables domestic producers of chemicals, plastics, fertilizers, paper and wood goods, glass, metals and food products to effectively compete in the global economy. In the NAM proposal we support a national commitment to further reducing the energy intensity of the U.S. economy. We call for the establishment of a goal to reduce the energy intensity of the economy by 2.5 percent per year – an increase of 30 percent over historical averages. The NAM recommends increased funding for DOE's energy efficiency programs and authorizing an energy efficiency loan program to spur efficiency gains with longer term paybacks. We also recommend increased R&D on Combined Heat and Power (CHP), Distributed Generation (DG), Carbon Capture and Storage (CCS), and diesel technology. These can lead to dramatic efficiency gains and greenhouse gas (GHG) reductions.

Speeding up technology deployment times can lead to faster than anticipated GHG reductions. Among the policies necessary to incentivize the necessary private R&D funding for advanced energy technologies is making permanent a strengthened R&D tax credit. Originally enacted in 1981, the credit has expired twelve times, causing great uncertainty in tax and research planning within the industrial sector. Given that most R&D efforts span between five and ten years, only a permanent and strengthened credit can truly provide the incentives necessary to increase research spending and speed the deployment of the next generation technologies that will provide the environmental and efficiency improvements we seek.

The NAM proposal calls for improvements in K-12 math and science education; the use of our National Laboratories to support teachers, internships, graduate fellowships, and research grants; and we call for the creation of an Advanced Research Projects Authority – Energy (ARPA-E) as a new agency within DOE dedicated to overcoming the long-term, high risk technological barriers to the development of advanced energy technologies.

Existing statutes and regulations are not just costly to manufacturers' bottom lines, but can also be major sources of decreased efficiency. Some regulations that seek to limit emissions of certain pollutants have the effect of requiring more of a fuel to produce the same amount of energy. Also the current morass of requirements necessary to site a new power facility including

ones using renewable energy make the upgrading or new construction of cleaner, less GHG emitting facilities harder than it should be if our shared goal of environmental improvement is to be accomplished.

Coal is used to generate more than half of all the electricity consumed in the United States. It is affordable and plentiful, with estimates reaching more than 250 billion tons of recoverable U.S. coal reserves – equivalent to an estimated 800 billion barrels of oil (compared to Saudi Arabia's proven reserves of 260 billion barrels). Climate change legislation could have substantial effects on the current fuel mix for electricity production. If our domestic baseload generation is to keep pace with increased population and industrial needs, then the incentives in the Energy Policy Act of 2005 (EPAct) for supercritical pulverized coal combustion, integrated gasification combined cycles (IGCC), and carbon sequestration must be fully funded and additional depreciation incentives should be established. Any legislation should include policies to promote significant research, development and deployment of hyper-efficient end use technologies; low-or zero-GHG emitting technologies; and cost-effective carbon capture and storage. This will require joint public/private cost sharing, long term stable financing with dedicated revenue, and policies to create new incentives to use low-GHG technologies, while also addressing any regulatory or inherent financial roadblocks. One such regulatory roadblock is that no regime currently exists to permit long-term geologic sequestration of CO2. Congress should fund demonstration projects in this area. Any proposed climate legislation that would seek to eliminate coal from the fuel mix would be catastrophic for the economy and destructive of manufacturing jobs.

Clean, safe nuclear power is currently the second largest source of electricity in the United States, as 103 commercial nuclear power units provide 20 percent of the nation's electricity. Nuclear power production produces no GHG emissions. In 2004, if all the nuclear power had to be replaced with other GHG emitting power production it would be the equivalent of putting an extra 134 million passenger cars on the road. Any future climate proposals must include provisions to ensure the continued use of nuclear power in sufficient quantities to provide stable and growing use of it as an electricity source. While EPAct 2005 contained numerous important provisions designed to facilitate the construction of the first new nuclear power plant in decades, more can be done. First, the nation should establish a voluntary, national goal for nuclear power generation. The NAM calls for authorizing interim storage of spent fuel at existing DOE facilities with state approval. Unnecessary barriers to license reviews should be eliminated. The government should study barriers to the manufacture of nuclear components that hinder the U.S. industry and eliminate or streamline them. To prepare for an increase in nuclear power we also need to promote the development of a domestic nuclear workforce as well as prepare for next generation capabilities with additional R&D on advanced fuel cycles and fully fund the Global Nuclear Energy Partnership (GNEP).

Renewable power provides less than 2 percent of energy production in the United States. While solar and wind power are inherently limited by day-to-day and seasonal intermittency, weather conditions, land availability and cost considerations, there is potential to increase these clean and domestic sources of electricity. The NAM recommends a system of reverse auctions to award assistance to concentrating solar plants and large scale wind farms both on and off-shore. Applicants for assistance could receive it in the form of loan guarantees, grants, direct government loans, or accelerated depreciation and would be awarded on the basis of the best value, on a kilowatt per hour basis, to the American taxpayer.

Under some climate change proposals the use of natural gas as a source for production of electricity would dramatically increase. The recent rise in natural gas prices has significantly weakened the competitive position of the U.S. vs. some of our trading partners. The chemical industry has estimated that it has lost 100,000 jobs to the high price of natural gas which is used as a feedstock. Forest product manufacturers have seen more than 200 mills close and the loss of 200,000 jobs in the last six years, with much of the closure and layoffs due to soaring energy costs and particularly natural gas costs. Further exacerbating this problem by encouraging more fuel switching to natural gas for electricity will further devastate these critical domestic industries. Steps like imposing a federal natural gas combined cycle (NGCC) CO2 performance standard for new power plants will encourage this outcome. No matter what, additional domestic reserves must be brought online and additional LNG terminals must be added. The U.S. Department of Interior's Minerals Management Service estimates that an additional 420 trillion cubic feet (2006, mean estimates) of natural gas are currently under exploration moratoria. Additional R&D funding for production of natural gas from methane hydrates must also be made a priority if America is to remain a competitive place to manufacture goods.

Any program dedicated to GHG emission reductions should not be delegated to executive branch agencies to work out the details. It is incumbent upon Congress to make the tough choices and provide clear direction to affected sectors of the economy. Attempts to shift the responsibility for significant choices to agency officials well after passage of legislation could prevent the best policy from being implemented. Full regulatory and financial transparency should be the foundation of any proposal. All aspects should be reviewed and analyzed not just for their impacts on the federal budget but for their impacts on energy prices, compliance costs, and job dislocation. This should be done with full participation of stakeholders and certainly not left to a public comment period during implementation.

Any system developed must be national in scope and include international efforts. Multiple solutions in different states or regions will not contribute to significant national improvements in emissions and will make any proposal unnecessarily complex and costly. The problem does not affect individual states, individually. And individual state action will not cause improvements for that one state. One federal program will be necessary and state preemption is essential. And in a program designed to make improvements to global GHG concentrations, it

would be counterproductive to not include all sources of emissions. Any proposal that does not anticipate and encourage world-wide participation or account for and disincentivize non-participation will be doomed to simply transfer the emissions from one country to another. Even fast growing developing nations must participate if the goal is to create actual reductions in GHG concentrations. Manufacturers in the United States already face a 31.7% cost disadvantage among our trading partners. Allowing that disadvantage to widen with countries free from GHG restrictions is a recipe for many thousands of additional manufacturing jobs lost.

As part of any climate change proposal, encouragement of trade in energy efficient and environmentally sound technologies is essential. Barriers to trade in these goods could cost us tremendous opportunities, especially in developing nations, to deployment of these technologies. A 0 percent tariff globally on these products will bring technology improvements online faster and will contribute to lower GHG concentrations.

Again, the NAM supports climate change policies that are cost-effective, compatible with our marketplace economy, transparent, flexible, preempt the increasing patchwork of state climate change laws, global in scope and involve all of our trading partners, and take into account all greenhouse gas sources and reservoirs. In particular, any such policies should aim to achieve results with minimum overall impacts on the U.S. economy. Costs of GHG mitigation would be minimized to the extent that the system is economy-wide and covers the broadest array of emission sources. In principle, all sectors and sources should be covered subject to the need for effective, reliable emissions accounting. To that end, a "cap and trade" program is one option for encouraging GHG emission reductions, as are carbon tax and standards approaches. In this context it is important to highlight that a "cap and trade" program affecting CO2 is very different from past enacted programs. The challenges are substantial.

It is also important to note that there is not just one but a range of possible cap and trade options including those that impose limitations upstream (on fuels that will lead to release of CO2) or downstream (on operations that emit CO2) and that operate with or without a safety valve to limit the unknown cost and volatility of these approaches. Legislators considering GHG related policy should pursue a thorough examination of all policy options.

Manufacturers continue to lead the way in reducing the energy intensity of the American economy. Our members know that reducing energy needs through conservation and efficiency gains is good both for their bottom lines and the environment. Many of our members have taken additional steps to reduce greenhouse gas emissions from their operations. A majority of the participants in the EPA's Climate Leaders program are manufacturers and 55 of the 110 participants are NAM members. Additionally, participants in DOE's ClimateVISION program are members of the NAM's Council of Manufacturing Associations. In both government programs and private sector initiatives NAM members are taking a leadership role in GHG emission reductions. NAM recently launched an Energy Efficiency and Conservation Task

Force to share best practices among members, partner with federal agencies, and help members save money while improving their environmental performance.

The NAM believes that a crucial first step in any movement on climate change legislation is full funding and implementation of the provisions of EPAct 2005 that directly and indirectly encourage reductions of greenhouse gas emissions. We have included a summary of those provisions in the appendix.

Thank you for the opportunity to express our views.

Sincerely,

John Engler
President

JE/km

cc: The Honorable Joe Barton, Ranking Member
Committee on Energy & Commerce

The Honorable Dennis Hastert, Ranking Member
Subcommittee on Energy & Air Quality

APPENDIX

Greenhouse Gas Emissions Reducing Provisions Within the Energy Policy Act of 2005

The Energy Policy Act, approved by Congress and signed into law by the President in August 2005, advances responsible action on potential climate change. Specific new policies address climate change through new technologies that will diversify America's energy portfolio, promoting clean, affordable and reliable energy for decades. Below is a summary of these new policies, followed by the details on specific new provisions. These have been categorized into technology development, technology adoption, and energy source adoption.

Long-term Technology Development. Basic research in the energy bill could lead to fundamental reductions in GHG emission trends even with a healthy growing economy. These new technologies also could be used in developing countries where greenhouse gas emissions are growing most rapidly. Funded research could lead to significant advances in:

- Hydrogen Fuels -- funding enhances the potential for practical use of hydrogen fuels by addressing everything from safe delivery to the codes and standards for hydrogen use.
- Coal Gasification, Carbon Sequestration and Efficiency Improvements – could allow coal to be used to generate carbon-free or low-carbon electricity.
- Fuel Cell Research -- will address technical and cost issues and potentially speed fuel cell use in residential, commercial and transportation applications.
- Energy Conservation and Efficiency – the Next Generation Lighting Initiative and initiatives like advanced electric motor control device research could significantly reduce overall energy use, further reducing GHG emissions.

Near- and Medium-term Technology Adoption. The energy bill promotes or requires actions to improve energy efficiency and reduce greenhouse gas emissions throughout the economy. Actions include:

- National Requirements for increased ethanol use and decreased petroleum use;
- Federal Agency Requirements covering metering, percentage reduction schedules and new options for contracting to reduce energy use and GHG emissions;
- Communities and States have new funding for energy efficient appliance programs, weatherization assistance and state energy conservations plans;
- Efficiency Standards and Incentives for Public Housing will improve energy efficiency;
- Efficiency Standards and Incentives for Individuals and Businesses adds energy conservation standards for a wide range of commercial appliances and other products.

Near- and Medium-term Adoption of New Energy Sources. A wide range of specific actions promoting the supply of zero and low-GHG energy sources include:

- Renewable Energy options for increased production of renewable energy on federal lands;
- Natural Gas incentives and reduction of barriers to marginal or unconventional natural gas and installation of LNG terminals will increase supplies of this lowest-carbon fossil fuel;
- Nuclear Power options improve, promoting continued use of carbon-free nuclear power, development of new modular nuclear reactors.

Technology Research, Development and Demonstration

Hydrogen

- Authorizes $1.25 billion over 10 years for the Next Generation Nuclear Plant Project for research, development, design, construction and operation of an advanced, next-generation, nuclear energy system leading to alternative approaches to reactor-based generation of hydrogen. (Title VI -- Nuclear Matters, Sec. 641-645)
- Authorizes $3.2 billion over five years for programs enhancing the potential for using as an energy source in the US economy. Program elements address:
    - Hydrogen and Fuel Cell Technology Research and Development ($1.92 billion);
    - Hydrogen Supply and Fuel Cell Demonstration Program ($1.31 billion);
    - Development of Safety Codes and Standards ($38 million);
    - Reports ($7.5 million), (Title VIII – Hydrogen)

Energy Efficiency

- Authorizes $1.8 billion over nine years for the Clean Coal Power Initiative for projects that advance efficiency, environmental performance or cost competitiveness of coal gasification and related projects. Establishes a 50% thermal efficiency target for coal gasification technologies and 7% improvements in thermal efficiencies of existing units. (Title IV- Coal, Sec. 401)
- Authorizes $2.6 billion over eight years for energy efficiency and conservation research, development, demonstration and commercial applications including:
    - Minimum $350 million over eight years for the Next Generation Lighting Initiative for energy efficient advanced solid-state lighting technologies (Title IX: Research and Development, Sec. 912)
    - Creates National Building Performance Initiative to, in part, energy conservation. (Title IX: Research and Development, Sec. 913)
    - Minimum $21 million over three years for research, development and demonstration for improving performance, service life and cost of used vehicle batteries in secondary applications (Title IX: Research and Development, Sec. 915)
    - Establishes the Energy Efficiency Science Initiative (Title IX: Research and Development, Sec. 916)
    - $780 million over three years for advanced cost-effective technologies to improve the energy efficiency and environmental performance of vehicles (Title IX: Research and Development, Sec. 911)
    - $4 million over two years for advanced control devices to improve the energy efficiency of electric motors, including those used in industrial processes, heating, ventilation, and cooking (Title IX: Research and Development, Sec. 911)
- $768 million over three years to promote distributed energy and electric energy systems including:

  - High Power Density Industry Program to improve the energy efficiency of data centers, server farms and telecommunications facilities (Title IX: Research and Development, Sec. 921)
  - $40 million over two years for Micro-Cogeneration Energy Technology for increased efficiency in small-scale combined heat and power for residential applications (Title IX: Research and Development, Sec. 923)
  - Distributed Energy Technology Demonstration Program to accelerate utilization of efficient and low-emitting technologies such as fuel cells, micro-turbines and combined heat and power systems (Title IX: Research and Development, Sec. 924)
  - Electric Transmission and Distribution Programs to ensure in part, energy efficiency of electrical transmission and distribution systems (Title IX: Research and Development, Sec. 925)
- Authorizes $1.137 billion over three years for R&D and commercial application programs to facilitate systems including innovation for existing plants (including mercury removal), integrated gasification combined cycle, advanced combustion systems, turbines for synthesis gas derived from coal, carbon capture and sequestration research and development, coal derived chemicals and transportation fuels, liquid fuels derived from coal, solid fuels and feedstock, advanced coal related research, advanced separation technologies, and fuel cells for the operation of synthesis gas derived from coal (Title IX: Research and Development, Sec. 962)
- Establishes a Federal/State cooperative program for research, development, and deployment of energy efficiency technologies (Title I -- Energy Efficiency, Sec. 127)
- Authorizes $65 million over three years to establish a research partnership to develop and demonstrate railroad locomotive technologies that, in part, increase fuel economy (Title VII – Vehicles and Fuels, Sec. 751)
- Mandates a study of feasibility and effects of reducing the use of fuel for automobiles (Title VII – Vehicles and Fuels, Sec. 773)
- Calls for a study of how to measure energy efficiency (Title XVIII – Studies, Sec. 1802)
- Provides that the Federal government use energy efficient technologies in their buildings and vehicles associated with the National Park System, National Wildlife Refuge System, National Forest System, National Marine Sanctuaries System, and other public lands and resources managed by the Secretaries of Interior, Commerce and Agriculture (Title I – Energy Efficiency, Sec. 111)
- Creates an amendment to the Low-Income Home Energy Assistance Act of 1981 permitting the State or an agent thereof to purchase renewable fuels, including biomass (Title I – Energy Efficiency, Sec. 121)
- Requires a report on failure to comply with deadlines for new or revised energy conservation standards (Title I – Energy Efficiency, Sec. 141)
- Provides $250 million over five years toward a joint program with NASA to develop ultra-efficient engine technologies for aircraft, with goals including a fuel efficiency

increase of at least 10%, and a reduction of the impact of landing and take-off nitrous oxides emissions on local air quality of 70% (Title VII – Vehicles and Fuels, Sec. 758)

- Provides $40 million over four years for a program to improve technologies for the commercialization of a combination hybrid/flexible fuel vehicle or a plug-in hybrid/flexible fuel vehicle (Title VII – Vehicles and Fuels, Sec. 706)

- Provides that the Secretary shall accelerate efforts directed toward the improvement of hybrid vehicle technologies (Title VII – Vehicles and Fuels, Sec. 711)
- Provides that the Secretary shall accelerate efforts to improve diesel combustion and after-treatment technologies for use in diesel fueled motor vehicles (Title VII – Vehicles and Fuels, Sec. 754)
- Provides that the Secretary will carry out a program of research, development, demonstration, and commercial application of technologies for ultra-deepwater and unconventional natural gas and other petroleum resources exploration and production in order to maximize the value of natural gas and other petroleum resources of the US, by increasing the supply, through reducing the cost and increasing the efficiency of exploration and production, while improving safety and minimizing environmental impacts (Title IX – Research and Development, Sec. 999A, 999B)

<u>Renewable Energy</u>

- Authorizes $22.27 billion over three years for renewable energy research, development and demonstration including:
    - $738 million for Biofuels research aimed at making fuels that are price-competitive with gasoline or diesel in internal combustion or fuel- cell-powered vehicles (Title IX: Research and Development, Sec. 931, 932)
    - $450 million over three years for Concentrating Solar Power Research Program for the production of hydrogen including cogeneration of hydrogen and electricity (Title IX: Research and Development, Sec. 931, 934)
    - Hybrid Solar lighting R&D for novel lighting that combines sunlight and electrical lighting (Title IX: Research and Development, Sec. 934)
- Establishes a Federal/State cooperative program for research, development, and deployment of renewable energy technologies (Title I -- Energy Efficiency, Sec. 127)
- Establishes the Advanced Biofuel Technologies Program to demonstrate advanced technologies for the production of alternative transportation fuels (Title XV – Ethanol and Motor Fuels, Sec. 1514)
- Requires a study of the Energy Policy Act of 1992 and its impact on alternative fueled vehicle technology, availability of technology and cost of alternative fueled vehicles (Title XVIII – Studies, Sec. 1831)
- Provides a tax credit of 30% of the cost of any qualified alternative fuel vehicle refueling property built (Title XIII – Energy Policy Tax Initiative, Sec. 1342)
- Provides $300 million over five years for the creation of a photovoltaic energy commercialization program, in order to accelerate growth of the industry, reduce fossil

fuel consumption, attain the goal of installing solar energy systems in 20,000 Federal buildings by 2010, and to develop program performance data to support policy decisions on future incentive programs with respect to energy (Title II – Renewable Energy, Sec. 204)

- Establishes that the Secretary prepares detailed roadmaps for the research, development, and other related programs of solar and wind technologies (Title VIII – Hydrogen, Sec. 812)

- Authorizes $250 million for production incentives for cellulosic biofuels (Title IX – Research and Development, Sec. 942)
- Establishes a program for education and outreach on biobased fuels and biobased products consisting of training programs and education (Title IX – Research and Development, Sec. 947)
- Creates an amendment to the 1986 code providing bonds to be held by qualified applicants for the use of renewable energy in the creation of electricity (Title XIII – Energy Policy Tax Initiatives, Sec. 1303)

<u>Nuclear</u>

- Authorizes $1.18 billion over three years for Nuclear Energy research, development, demonstration and commercial application activities including:
    - Research to examine reactor designs for large-scale production of hydrogen using thermochemical processes (Title IX: Research and Development, Sec. 952)
    - Generation IV Nuclear Energy Systems initiative to advance understanding of efficiency and cost opportunities for next generation nuclear power plants (Title IX: Research and Development, Sec. 952)
- Provides a tax credit of 1.8 cents per kilowatt-hour of electricity produced and sold by advanced nuclear power facilities (Title XIII – Energy Policy Tax Initiatives, Sec. 1306)

<u>Sequestration</u>

- Establishes a grant program to provide incentives to promote the capturing, transportation and injection of CO_2, and to promote oil and natural gas production from the Outer Continental Shelf and onshore Federal lands by providing royalty incentives to use enhanced recovery techniques (Title III – Oil and Gas, Sec. 354)
- Mandates research on technologies to capture carbon dioxide from pulverized coal combustion units (Title IX – Research and Development, Sec. 963)
- Institutes loan guarantees for projects that avoid, reduce, or sequester anthropogenic emissions of greenhouse gases and employ new or significantly improved technologies (Title XVII – Incentives for Innovative Technologies, Sec. 1703)

Science

- Authorizes $13.9 billion over three years for basic science research that could have significant implications for long-term trends in the nation's greenhouse gas emissions (Title IX: Research and Development, Sec. 961). These programs include:
    - $1.1 billion for Fusion Energy Science Program (Sec. 972)
    - Fission and Fusion Energy Materials Research Program (Sec. 978;
    - $74.7 million for Catalysis science research that may contribute to new fuels for energy production and more efficient material fabrication processes (Sec. 973)
    - Nanoscale science and engineering research (Sec. 971)
    - $995 million for Advanced scientific computing for energy missions (Sec. 967)
    - Genomes to Life Program with a goal of developing technologies and methods that will facilitate production of fuels, including hydrogen, and convert carbon dioxide to organic carbon (Sec. 977)
- Provides $5 million for a project to demonstrate the viability of high-energy electron scrubbing technology (Title IV – Coal, Sec. 416)

Technology Adoption

International

- Directs the Secretary of State, in coordination with the Administrator of the U.S. Agency for International Development, to provide assistance to developing countries specifically for projects to reduce greenhouse gas intensity (Title XVI – Climate Change, Sec. 1602)

National Private Sector -- Energy Use Policies

- Establishes a self-sustaining national public energy education program that will cover, among other things, conservation and energy efficiency, and the impact of energy use on the environment (Title I -- Energy Efficiency, Sec. 133)
- Authorizes $450 million over five years to create a comprehensive national public awareness program regarding the need to reduce energy consumption, the benefits of reducing energy consumption during peak use periods, and practical, cost-effective energy conservation measures (Title I -- Energy Efficiency, Sec. 134)
- Authorizes the Secretary of Energy to enter into voluntary agreements with energy intensive industrial sector entities to significantly reduce the energy intensity of their production activities (Title I -- Energy Efficiency, Sec. 106)

National Private Sector -- Efficiency Standards and Incentives

- Creates energy conservation standards for commercial clothes washers, icemakers, refrigerators, freezers, air conditioners, and heaters (Title I -- Energy Efficiency, Sec. 136)

- Authorizes $6.2 million for pilot projects designed to conserve energy resource by encouraging use of bicycles in place of motor vehicles (Title VII – Vehicles and Fuels, Sec. 755)
- Authorizes $94.5 million over three years to reduce energy use by reducing heavy-duty vehicle long-term idling (Title VII – Vehicles and Fuels, Sec. 756)
- Authorizes $45 million over three years to reduce energy use by reducing locomotive long-term idling (Title VII – Vehicles and Fuels, Sec. 756)
- Authorizes $25 million over five years for a biodiesel testing partnership with engine, fuel injection, vehicle and biodiesel manufacturers to test and improve biodiesel technologies (Title VII – Vehicles and Fuels, Sec. 757)
- Authorizes $17.5 million over five years for CAFÉ enforcement obligations (Title VII – Vehicles and Fuels, Sec. 771)
- Establishes a DOE/EPA voluntary Energy Star Program under the Energy Policy and Conservation Act to identify and promotes energy-efficient products and buildings (Title I -- Energy Efficiency, Sec. 131)
- Directs the Secretary of Energy in cooperation with EPA to undertake an educational program for homeowners and small businesses on energy savings from properly maintained air conditioning, heating, and ventilating systems (Title I -- Energy Efficiency, Sec. 132)
- Adds energy conservation standards definitions for additional products (e.g. lamps, battery chargers, refrigerators, external power supply, illuminated exit sign, low-voltage, transformer, traffic signal module) to the Energy Policy and Conservation Act (Title I -- Energy Efficiency, Sec. 135)
- Initiates a rulemaking under the Energy Policy and Conservation Act to evaluate and improve the effectiveness of current energy efficiency labeling on consumer products (Title I -- Energy Efficiency, Sec. 137)
- Provides a tax deduction of a maximum of $1.80 per square foot, adjusted for the aggregate amount of the deductions from all prior years, for energy efficient commercial buildings (Title XIII – Energy Policy Tax Initiatives, Sec. 1331)
- Provides tax credits to promote energy efficiency for qualifying entities under the following categories: construction of new energy efficient homes; certain non-business energy property; energy efficient appliances; residential energy efficient property; business installation of qualified fuel cells and stationary micro-turbine power plants; and business solar investment (Title XIII – Energy Policy Tax Initiatives, Sec. 1332, 1333, 1334, 1335, 1336, 1337)
- Provides tax credits for fuel cell, advanced lean burn technology, hybrid, and alternative fuel motor vehicles (Title XIII – Energy Policy Tax Initiatives, Sec. 1341)
- Establishes grant and loan programs given on a competitive basis from the Federal level, state level, or both, to eligible entities to achieve significant reductions in diesel emissions in terms of tons of pollution produced and diesel emissions exposure (Title VII – Vehicles and Fuels, Sec. 792, 793)

- Provides a tax credit of maximum 20 percent of the qualified investment, for investments in clean coal facilities (Title XIII – Energy Policy Tax Initiatives, Sec. 1307)

Federal Agencies

- Directs Secretary of Energy to revise Federal building energy efficiency performance standards to require, if life-cycle cost-effective, that new Federal buildings achieve energy consumption levels at least 30 percent below the most recent version of ASHRAE or the International Energy Conservation Code (Title I -- Energy Efficiency, Sec. 109)
- Promotes plans for energy and water savings measures in Congressional buildings as well as reductions in energy consumption in federal buildings nationwide (Title I -- Energy Efficiency, Sec. 101)
- Establishes percentage reduction schedule for fuel use per gross square foot of Federal buildings for 2006 through 2015 (Title I -- Energy Efficiency, Sec. 102)
- Calls for all Federal buildings to be metered or sub-metered to promote efficient energy use and reduce electricity costs (Title I -- Energy Efficiency, Sec. 103)
- Directs federal agencies to procure Energy Star or FEMP designated-energy efficient products (Title I -- Energy Efficiency, Sec. 104)
- Permanently extends and expands existing federal agency authority to contract with energy service companies to assume the capital costs of installing energy and water conservation equipment and renewable energy systems in federal facilities, and recover life-cycle energy cost savings over the term of the contract (Title I -- Energy Efficiency, Sec. 105)
- Promotes increased use of recovered mineral component in Federally funded projects involving procurement of cement or concrete (Title I -- Energy Efficiency, Sec. 108)
- Amends the Energy Policy Act of 1992 to require Federal agencies to purchase renewable sources of fuel (Title II – Renewable Energy, Sec. 203)
- Amends Energy Policy and Conservation Act to promote Federal agencies' use of alternative fuels in duel-fuel vehicles (Title VII – Vehicles and Fuels, Sec. 701)
- Requires energy savings goals for each Federal agency and requires the use of fuel cell vehicles, hydrogen energy systems, and stationary, portable, and micro fuel cells. Authorizes $450 million over five years to achieve these goals (Title VII – Vehicles and Fuels, Sec. 782, 783)
- Mandates a study on energy conservation implications of widespread adoption of telecommuting by Federal employees (Title XVIII – Studies, Sec. 1803)
- Requires a study on the amount of oil demand that could be reduced by oil bypass filtration technology and total integrated thermal systems and feasibility of using the technologies in Federal motor vehicle fleets (Title XVIII – Studies, Sec. 1805, 1806)

Communities and States

- Amends the Energy Conservation and Production Act and reauthorizes $1.8 billion over three years for weatherization assistance (Title I -- Energy Efficiency, Sec. 122)

- Authorizes $325 million over three years and amends the Energy Policy and Conservation Act to promote State review their energy conservation plans, with a state energy efficiency goal of a 25 percent or more improvement by 2012 compared to 1992 (Title I -- Energy Efficiency, Sec. 123)
- Authorizes $250 million over five years for State energy efficient appliance rebate programs (Title I -- Energy Efficiency, Sec. 124)
- Authorizes $150 million over five years for grants to State agencies to assist local governments in constructing new energy efficient public buildings that use at least 30 percent less energy than comparable public building meeting the International Energy Conservation codes (Title I -- Energy Efficiency, Sec. 125)
- Authorizes $60 million over three years for grants to local government, private, and non-profit community development organizations, and Indian tribes to improve energy efficiency, develop alternative renewable energy supplies, and increase energy conservation in low income rural and urban communities (Title I -- Energy Efficiency, Sec. 126)
- Authorizes $125 million worth of grants over five years to States to develop and implement building codes that meet or exceed the energy efficiency of the most recent building energy codes (Title I -- Energy Efficiency, Sec. 128)
- Calls for a study of State and regional policies that promote utilities to undertake cost-effective programs reducing energy consumption (Title I -- Energy Efficiency, Sec. 139)
- Authorizes $25 million for States to carry out programs that encourage energy efficiency and conservation of electricity or natural gas (Title I -- Energy Efficiency, Sec. 140)

<u>Public Housing</u>

- Encourages increased energy efficiency and water conservation through amendments to the U.S. Housing Act of 1937 by promoting installation of equipment conforming to new standards (Title I -- Energy Efficiency, Sec. 151)
- Requires public housing agencies to purchase energy-efficient appliances that are Energy Star products or FEMP-designated products when purchasing appliances unless these products are not cost-effective (Title I -- Energy Efficiency, Sec. 152)
- Includes energy efficiency standards in amendments to the Cranston-Gonzalez National Affordable Housing Act (Title I -- Energy Efficiency, Sec. 153)
- Directs the Secretary of Housing and Urban Development to develop and implement an integrated strategy to reduce utility expenses at public and assisted housing through cost-effective energy conservation, efficiency measures, as well as energy efficient design and construction (Title I -- Energy Efficiency, Sec. 154)

Energy Source Adoption

Renewable Energy and Increased Efficiency

- Mandates that motor vehicle fuel sold in U.S. contain 4 billion gallons of renewable fuel in 2006, rising to 7.5 billion gallons in 2012 (Title XV – Ethanol and Motor Fuels, Sec. 1501)
- Authorizes study of the potential for increasing hydroelectric power production capability at federally owned or operated water regulation, storage, and conveyance facilities (Title XVIII – Studies, Sec. 1834)
- Prioritizes funds for renewable energy production incentives, placing emphasis on solar, wind, geothermal and closed-loop biomass technologies (Title II – Renewable Energy, Sec. 202)
- Establishes goals for the share of federal government purchases of electricity from renewable sources to the extent economically feasible and technically practicable. (Title II -- Renewable Energy, 203)
- Authorizes $36 million for the establishment of a Sugar Cane Ethanol Program to promote the production of ethanol from sugar cane (Title II – Renewable Energy, Sec. 208)
- Authorizes $125 million over ten years for grants to facilities that use biomass to produce electricity, sensible heat, transportation fuels or substitutes for petroleum-based products; and for grants to persons researching ways to improve the use of biomass or add value to biomass utilization (Title II -- Renewable Energy, Sec. 210)
- Improves geothermal energy leasing procedures, terms and conditions to increase use of geothermal energy (Title II -- Renewable Energy, Subtitle B)
- Facilitates use of the OCS for alternative energy sources such as wind power and ocean thermal energy (Title III – Oil and Gas, Sec. 388)
- Calls for a study of the potential for renewable energy on Federal land and make recommendations for statutory and regulatory mechanisms for developing these resources (Title XVIII – Studies, Sec. 1833)

- Establishes a program to encourage domestic production and sales of efficient hybrid and advanced technology diesels (Title VII – Vehicles and Fuels, Sec. 712)

Natural Gas Supplies

- Provides incentives to continue natural gas production on low-yield (marginal) properties by reducing the royalty rate when prices fall (Title III – Oil and Gas, Sec. 343)
- Provides incentives for natural gas production from deep wells in the shallow water of the Gulf of Mexico (Title III – Oil and Gas, Sec. 344)
- Extends royalty relief for natural gas production in the deepwater of the Gulf of Mexico (Title III – Oil and Gas, Sec. 345)
- Authorizes $125 million over five years to reduce fugitive methane emissions by establishing a program to properly plug and abandon orphaned, abandoned, or idled wells on federal land (Title III – Oil and Gas, Sec. 349)

- Authorizes $350 million over five years to facilitate timely action on natural gas leases and permits and creation of Best Management Practices for processing permits (Title III – Oil and Gas, Sec. 362)
- Requires the creation of a Memorandum of Understanding between the Department of Interior and Department of Agriculture to facilitate natural gas development on National Forest lands (Title III – Oil and Gas, Sec. 363)
- Establishes a Federal Permit Streamlining Pilot Project to expedite processing of natural gas permits (Title III – Oil and Gas, Sec. 364)
- Facilitates the building of LNG terminals thereby increasing the supply of natural gas (Title III – Oil and Gas, Sec. 311)
- Authorizes $155 million over five years for research aimed at facilitating production of natural gas from Methane Hydrates (Title IX – Research and Development, Sec. 968)
- Provides incentives to promote natural gas production from natural gas hydrates (Title III – Oil and Gas, Sec. 353)

Nuclear Energy Technologies

- Reauthorizes for 20 years the Price-Anderson Act, the long-standing liability insurance system for all nuclear operations in the country. This system has existed for more than 40 years and never required payment from the federal government (Title VI -- Nuclear Matters, Sec.602)
- Improves the regulatory treatment modular reactors, facilitating the installation of new, more cost effective nuclear power reactor designs (Title VI -- Nuclear Matters, Sec. 608).